

What is claimed is:

1. A trial tray assembly for evaluating the stability and kinematic behavior of a prosthetic knee implant prior to implanting the final prosthetic knee implant comprising:

5 a trial tray configured to be placed on a proximal end of a resected tibia, said trial tray having a plate with a configured opening;
an alignment handle detachably couplable to said plate; and
an evaluation bullet having a profile corresponding in shape to said configured opening and removably received in said configured opening,
10 said evaluation bullet including a trunnion adapted to receive a trial insert thereon, the trial insert mimicking the final prosthetic knee implant.

2. The trial tray assembly of claim 1, wherein said trunnion of said evaluation bullet provides a non-rotatable bearing surface for the trial
15 insert.

3. The trial tray assembly of claim 1, wherein said trunnion of said evaluation bullet is configured to provide a movable bearing surface for the trial insert.

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4. The trial tray assembly of claim 3, wherein said evaluation bullet includes spikes operable to removably affix said evaluation bullet onto the resected tibia.

5. The trial tray assembly of claim 1, wherein said plate is adapted to be removably secured to the resected proximal tibia.

6. The trial tray assembly of claim 5, wherein said plate is adapted to be removably secured to the resected proximal tibia via bores configured to receive fixation pins.

7. The trial tray assembly of claim 1, wherein said configured opening includes a recessed ledge operable to cooperate with said evaluation bullet to prevent said evaluation bullet from passing through said configured opening.

8. A method for evaluating the stability and kinematic behavior of a prosthetic knee implant prior to implanting a final prosthetic knee implant comprising the steps of:

resecting a patient's proximal tibia;

5 placing a trial tray onto the resected proximal tibia, the trial tray defined by a plate having a configured opening therein;

placing an evaluation bullet into the configured opening, the evaluation bullet shaped to substantially conform to said configured opening and having a trunnion;

10 placing an insert trial mimicking the final prosthetic knee implant having a recess therein onto the trunnion; and

moving the tibia to determine stability and kinematics of the insert trial.

15 9. The method of claim 8, further comprising the step of:

selecting a trial tray of a size appropriate for the anatomy of the resected proximal tibia.

10. The method of claim 8, further comprising the step of:

repeating the steps of placing an insert trial having a recess therein
onto the trunnion and moving the tibia to determine stability and
kinematics of the insert trial with a different insert trial having a recess
5 therein onto the trunnion if the stability and/or kinematics of the insert trial
is determined insufficient.

11. The method of claim 8, wherein the trunnion of the evaluation
bullet provides a non-rotatable bearing surface for the trial insert.

12. The method of claim 8, wherein the trunnion of the evaluation
bullet provides a rotatable bearing surface for the trial insert.

13. The method of claim 8, wherein the evaluation bullet includes
15 spikes operable to removably affix the evaluation bullet onto the resected
tibia.

14. The method of claim 8, further comprising the steps of:
selecting an appropriate insert trial after determining the stability
and kinematic behavior of the insert trial;

20 removing the evaluation bullet from the configured opening;
securing the trial tray onto the resected proximal tibia; and
preparing the resected tibia for implant of a final knee prosthesis
through the configured opening.

15. An apparatus for evaluating the stability and kinematic behavior of a prosthetic knee implant before final implant of a prosthetic knee implant comprising:

- a trial tray having a configuration substantially corresponding to a
- 5 shape of a resected tibia and including a cutout portion;
- a handle adapted to be removably attached to said trial tray;
- an evaluation bullet shaped to be removably received in said cutout portion and including a trunnion; and
- a trial insert having a recess adapted to be removably received on
- 10 said trunnion.

16. The apparatus of claim 15, wherein said trunnion is shaped to allow rotation of said trial insert.

- 15 17. The apparatus of claim 15, wherein said evaluation bullet includes spikes adapted to removably attach the evaluation bullet to the resected proximal tibia.

- 18. The apparatus of claim 15, wherein said trunnion is shaped to
- 20 prevent rotation of said trial insert.

19. The apparatus of claim 15, further comprising:

a plurality of insert trials corresponding to a variety of anatomical shapes of resected tibias, each of said plurality of insert trials having a recess adapted to be removably received on said trunnion.

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20. The apparatus of claim 15, wherein said trial tray is adapted to be removably secured to the resected tibia.

21. A prosthesis evaluation assembly, comprising:

10 a tray configured to be supported on a proximal end of a resected tibia, said tray having an opening defined therein; and

an evaluation member having (i) a lower portion configured to be received within said opening, and (ii) an upper portion configured to support a trial insert thereon.

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22. The assembly of claim 20, further comprising an alignment handle removably coupled to said tray.

23. The assembly of claim 20, wherein said evaluation member

20 includes a number of spikes which are configured to driven into said proximal end of said tibia to thereby affix said evaluation member to said resected tibia.

24. The assembly of claim 20, further comprising a number of fixation pins, wherein:

said tray has a number of holes defined therein, and

said fixation pins respectively extend through said number of holes

5 and into said proximal end of said tibia to thereby affix said tray to said resected tibia.

25. The assembly of claim 21, wherein:

said opening of said tray possesses a first profile,

10 said lower portion of said evaluation member possesses a second profile, and

said first profile is complimentary to said second profile, whereby rotational movement of said evaluation member relative to said tray is inhibited.

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26. A prosthesis evaluation assembly, comprising:

a tray configured to be supported on a proximal end of a resected tibia, said tray having an opening defined therein;

20 an evaluation member having (i) a tray contact portion configured to be received within said opening, and (ii) an insert contact portion; and

a trial insert having a recess configured to receive said insert contact portion.

27. The assembly of claim 26, wherein said insert contact portion of said evaluation member and said recess of said trial insert are configured to enable movement of said trial insert relative to said evaluation member when said insert contact portion is located within said
5 recess.

28. The assembly of claim 27, wherein said insert contact portion of said evaluation member and said recess of said trial insert are configured to enable rotation of said trial insert relative to said evaluation
10 member when said insert contact portion is located within said recess.

29. The assembly of claim 26, wherein said insert contact portion of said evaluation member and said recess of said trial insert are configured to prevent movement of said trial insert relative to said
15 evaluation member when said insert contact portion is located within said recess.

30. The assembly of claim 26, further comprising an alignment handle removably coupled to said tray.

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31. The assembly of claim 26, wherein said evaluation member includes a number of spikes which are configured to driven into said proximal end of said tibia to thereby affix said evaluation member to said resected tibia.

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32. The assembly of claim 26, further comprising a number of fixation pins, wherein:

said tray has a number of holes defined therein, and

said fixation pins respectively extend through said number of holes

10 and into said proximal end of said tibia to thereby affix said tray to said resected tibia.

33. The assembly of claim 26, wherein:

said opening of said tray possesses a first profile,

15 said tray contact portion of said evaluation member possesses a second profile, and

said first profile is complimentary to said second profile, whereby rotational movement of said evaluation member relative to said tray is inhibited.